

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 14 (canceled).

Claim 15 (currently amended). A filter element for filtering electromagnetic waves, containing comprising:

a dielectric, cylindrical resonator;

a printed circuit board including one or more lines for supplying or drawing off electromagnetic waves to or from said dielectric resonator; and

securing means;

said printed circuit board including a contacting structure, said lines terminating in said contacting structure;

~~said lines and said contacting structure forming a part of a printed circuit board;~~

~~wherein~~ said resonator [is] supported by said printed-circuit board;

said resonator [is] spaced from said contacting structure; and

said printed circuit board [is] formed with a recess and said resonator [is] held in said recess by ~~way of a~~ said securing means.

Claim 16 (previously presented). The filter element according to claim 15 configured as a bandpass filter or a band-stop filter.

Claim 17 (previously presented). The filter element according to claim 15 configured as a reflection filter.

Claim 18 (previously presented). The filter element according to claim 15 wherein said recess is dimensioned to enable self-centering fitting or mounting of said resonator.

Claim 19 (previously presented). The filter element according to claim 15, wherein said securing means for securing said resonator is selected from the group of adhesive and silicon.

Claim 20 (previously presented). The filter element according to claim 15, wherein each said line terminates in a separately embodied contacting structure.

Claim 21 (previously presented). The filter element according to claim 15, wherein two or more lines terminate in a commonly embodied contacting structure.

Claim 22 (previously presented). The filter element according to claim 15, wherein said contacting structure sickle-shaped at least in sections thereof.

Claim 23 (previously presented). The filter element according to claim 15, wherein said contacting structure is formed as an annulus structure.

Claim 24 (previously presented). The filter element according to claim 15, wherein said contacting structure is a circular-arc segment having a variable aperture angle less than 360°.

Claim 25 (previously presented). The filter element according to claim 15, wherein said lines are two lines and said contacting structure is a circular-arc segment having a variable aperture angle of approximately 160°.

Claim 26 (previously presented). The filter element according to claim 15, wherein said lines are three lines and said contacting structure is a circular-arc segment having a variable aperture angle of approximately 110°.

Claim 27 (previously presented). The filter element according to claim 15, wherein said lines are four lines and said contacting structure is a circular-arc segment having a variable aperture angle of approximately 75°.

Claim 28 (previously presented). The filter element according to claim 15, wherein said contacting structure has larger dimensions than said cylindrical resonator.

Claim 29 (previously presented). The filter element according to claim 15, wherein said contacting structure has smaller dimensions than said cylindrical resonator.

Claim 30 (previously presented). The filter element according to claim 15, wherein said resonator is substantially centered relative to said contacting structure.

Claim 31 (previously presented). The filter element according to claim 15, wherein said resonator has an operating frequency above 18 GHz.

Claim 32 (currently amended). A filter element, comprising:

a dielectric, cylindrical resonator;
a printed circuit board including one or more lines for supplying or drawing off electromagnetic waves to or from said dielectric resonator[;]
said printed circuit board including a contacting structure, said lines terminating in said contacting structure;

a retention area or cover disposed in close proximity to said contacting structure; and

securing means;

said resonator being held in place by said retention area or said cover;

said retention area or said cover spacing said resonator away from said printed circuit board and away from said contacting structure ~~said resonator being variably spaced from said contacting structure~~; and

said retention area or said cover being formed with recess, wherein said resonator is held by ~~way of~~ said securing means.

Claim 33 (previously presented). The filter element according to claim 32 configured as a bandpass filter or a band-stop filter.

Claim 34 (previously presented). The filter element according to claim 32 configured as a reflection filter.

Claim 35 (previously presented). The filter element according to claim 32, wherein said recess is dimensioned to enable self-centering fitting or mounting of said resonator.

Claim 36 (previously presented). The filter element according to claim 32, wherein said securing means for securing said resonator is selected from the group of adhesive and silicon.

Claim 37 (previously presented). The filter element according to claim 32, wherein each said line terminates in a separately embodied contacting structure.

Claim 38 (previously presented). The filter element according to claim 32, wherein two or more lines terminate in a commonly embodied contacting structure.

Claim 39 (previously presented). The filter element according to claim 32, wherein said contacting structure sickle-shaped at least in sections thereof.

Claim 40 (previously presented). The filter element according to claim 32, wherein said contacting structure is formed as an annulus structure.

Claim 41 (previously presented). The filter element according to claim 32, wherein said contacting structure is a circular-arc segment having a variable aperture angle less than 360°.

Claim 42 (previously presented). The filter element according to claim 32, wherein said lines are two lines and said contacting structure is a circular-arc segment having a variable aperture angle of approximately 160°.

Claim 43 (previously presented). The filter element according to claim 32, wherein said lines are three lines and said contacting structure is a circular-arc segment having a variable aperture angle of approximately 110°.

Claim 44 (previously presented). The filter element according to claim 32, wherein said lines are four lines and said contacting structure is a circular-arc segment having a variable aperture angle of approximately 75°.

Claim 45 (previously presented). The filter element according to claim 32, wherein said contacting structure has larger dimensions than said cylindrical resonator.

Claim 46 (previously presented). The filter element according to claim 32, wherein said contacting structure has smaller dimensions than said cylindrical resonator.

Claim 47 (previously presented). The filter element according to claim 32, wherein said resonator is substantially centered relative to said contacting structure.

Claim 48 (previously presented). The filter element according to claim 32, wherein said resonator has an operating frequency above 18 GHz.

Claim 49 (previously presented). In an oscillator configured for radar systems, LMDS distribution services, or satellite receivers, the filter element for filtering electromagnetic waves according to claim 32.

Claim 50 (previously presented). In an oscillator configured for radar systems, LMDS distribution services, or satellite receivers, the filter element for filtering electromagnetic waves according to claim 15.